

COUNTDOWN TO 2045

REALIZING CALIFORNIA'S PATHWAY TO NET ZERO

Around the world, people are experiencing sobering climate impacts and risks to future health and livelihoods. In response, California set a goal to become 100% carbon neutral by 2045, and made the goal into a law in 2022. While this policy can be a model for other states and nations, success requires unprecedented innovation and coordination across planning, policy and technology.

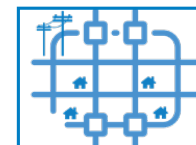
Edison International recently updated and expanded Southern California Edison's 2019 analysis, *Pathway 2045*, to incorporate policy updates, climate impacts, market and technology developments, and electric sector reliability analysis. Significant electrification — powered by clean generation and enabled by an unparalleled expansion of the electric grid — is necessary to meet decarbonization goals while keeping the system reliable and affordable. 2045 will have three times more utility-scale clean energy resources online than today, primarily through new solar, wind and energy storage.

By 2045, 90% of vehicles and 95% of buildings will run on electricity, and electricity demand will rise by 80%. Achieving this requires urgent, fundamental changes in how the state's entire energy infrastructure is planned and operated. State agencies and utilities must build out the grid faster than ever before, adding new transmission and distribution grid projects at up to four times and 10 times their historical rates, respectively.

Meeting California's ambitious goals requires keeping all options open, including greater use of emerging technologies such as carbon capture, to achieve the most feasible solutions. Similar transformation is needed worldwide to reduce GHG emissions at a scale that will meaningfully slow climate change.

These investments create cleaner air and opportunities for economic growth. Although electric bills will increase, the savings from reduced fossil fuel expenses will more than make up for it, per the graphic below. The average SCE customer household will save about 40% on their overall annual energy expenses by 2045.

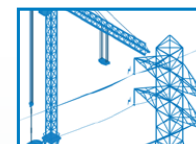
HOW WE GET THERE



System planning must be reimagined by state agencies and utilities for greater speed, efficiency, integration and flexibility



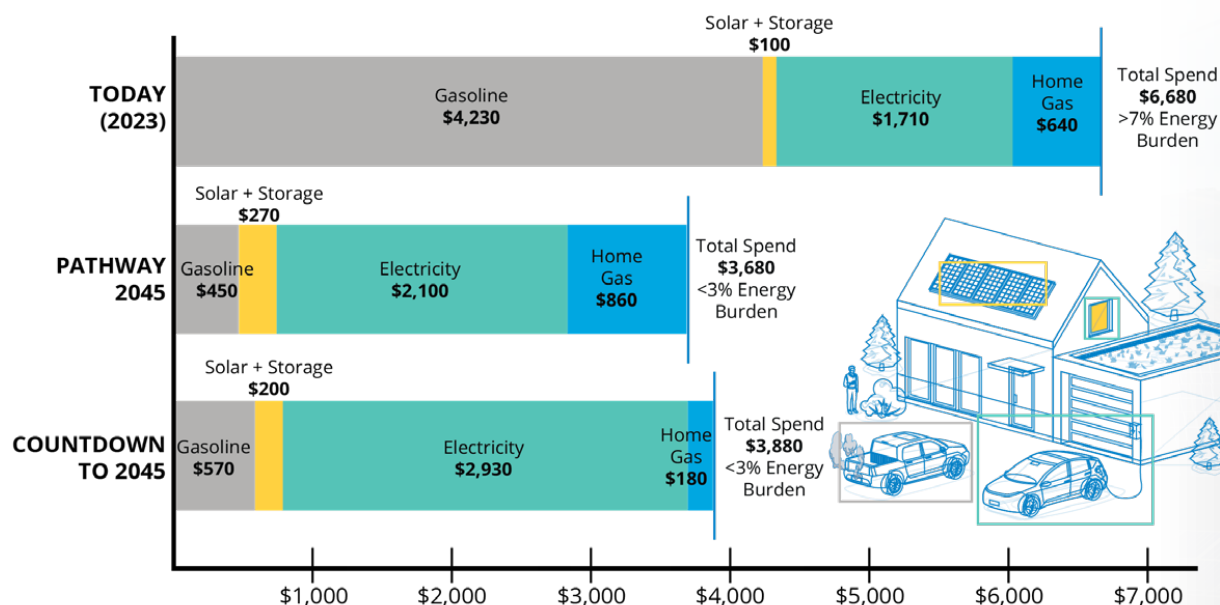
Emerging generation technology needs near-term investment to enable longer-term emission reductions



Transmission infrastructure development needs process and regulatory reforms to accelerate



Distribution grid evolution is required for utilities to serve electrification load and fully utilize local energy resources



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